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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/635,778	08/11/2000	David M. Goldschlag	2685/5681	1089

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EXAMINER
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MYHRE, JAMES W

ART UNIT	PAPER NUMBER
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3622

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/635,778

Applicant(s)

GOLDSCHLAG ET AL.

Examiner

James W. Myhre

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-27 is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed on February 25, 2003 is sufficient to overcome the Killian (5,495,532) reference. The amendment presented changes in the specification, which the Examiner has reviewed and accepted as not containing any new subject matter. The currently pending claims considered below are Claims 1-27.

### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts"

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has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

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The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these

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analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

In the present application, the claims do not disclose the use of any technology within the body of the claims. For instance, while Claim 1 is a "method for initializing electronic voting transactions", none of the steps (a-d) include any electronic technology, nor do the claims actually complete "electronic voting". Thus, the "electronic voting" is viewed as the intended use for the blinded validated vote certificate sent to the voter in step d. This rejection could be overcome by citing specific use of technology within the body of the claims. For example, the Applicant could change steps b and c of Claim 1 to read:

"b. determining by a computer processor if the vote authorization data is valid;  
c. if the vote authorization data is valid, then validating by the computer processor the blinded..."

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or some equivalent language supported by the specification. Similar changes could be made to the other independent claims. The Applicant is reminded, however, that the body of the claim must include non-trivial use of technology. A change such as in step d of “d. *sending registration response message telephonically to a voter...*” would be considered trivial use of telephone technology.

***Allowable Subject Matter***

4. Claims 1-27 contain allowable subject matter.

***Examiner's Statement for the Indication of Allowable Subject Matter***

5. The following is a statement of reasons for the indication of allowable subject matter: The invention pertains to a voting method, system, and apparatus in which a voter registers to vote (independent Claims 1, 4, 5, 10, 11, 13, 15, 17, 19, and 21-24) by submitting a registration request that includes voting authorization data and a blinded unvalidated vote certificate. The voting system determines the validity of the authorization data and validates the vote certificate to get a blinded validated vote certificate. The blinded validated vote certificate is sent back to the voter in a response message. Other features included in some of the independent and dependent claims include steps for auditing the voting process and for recovering from an interruption in the voting process.

Prior art was found which disclosed various methods for registering, voting, and compiling votes during elections. The most relevant prior art is Challener et al (6,081,793) which discloses the user receiving a smart card when registering to vote. The smart card contains the voter identification, public encryption key, a ballot box ID, and a PIN number for the voter. The Examiner considers the smart card to be the equivalent of the claimed vote certificate. The voter places his smart card in a card reader at the polling station and enters his PIN number to validate his identity. Upon validation, the voter is issued a paper or an encrypted electronic ballot now linked to him. The voter may use the smart card encryption key to decrypt the ballot, then enter his selections onto the ballot, re-encrypt the ballot using the smart card encryption key, and return the encrypted ballot to the voting system. The system uses at least two servers, each able to decrypt only a portion of the encrypted ballot to maintain the anonymity of the voter, while also allowing for the verification of the vote, if necessary. Thus, Challener is also using blind encryption methods. However, neither Challener, nor any other art of record, discloses using a blinded vote certificate that is passed from the voter to the system, validated by the system, and passed back to the voter as a blinded validated vote certificate for use in the election. Therefore, the Examiner considers this feature to be the non-obvious novelty of the invention.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



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- a. Wise et al (5,218,528) discloses a system, method, and apparatus for an automated voting system that integrates the registration and voting stages.
- b. Schipper et al (5,754,657) discloses a system, method, and apparatus for authenticating the source of a message such as a vote using blind encryption.
- c. Peralto (5,878,399) discloses a system, method, and apparatus for a computerized voting system which compares voter data input during the voting process with previously stored voter data in a database.
- d. Kotob et al (6,799,723) discloses a system, method, and apparatus for an automated voting system which passes voter identification across the network to ensure each voter only gets a single vote.
- e. Okamoto (JP 410074182A) discloses a system, method and apparatus for secret voting using blind signatures and other encryption methods.
- f. Sako et al (JP 406195361A) discloses a system, method, and apparatus for an electronic voting device using secret keys for each voter.
- g. Sako (JP 405314154A) discloses a system, method, and apparatus for an electronic voting device using blind signatures and secret holdings.
- h. Sako (JP 405303581A) discloses a system, method, and apparatus for an electronic voting device which perform a blind sign of the vote to prevent double voting.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exr. James W. Myhre whose telephone number is (571) 272-6722. The examiner can normally be reached Monday through Thursday from 5:30 a.m. to 3:30 p.m.

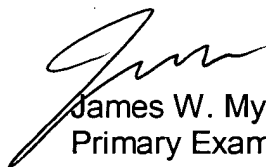
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber, can be reached on (571) 272-6724. The fax phone number for Formal or Official faxes to Technology Center 3600 is (703) 872-9306. Draft or Informal faxes, which will not be entered in the application, may be submitted directly to the examiner at (571) 273-6722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-3600.



JWM  
June 21, 2005



James W. Myhre  
Primary Examiner  
Art Unit 3622